

## SKILLS ACQUISITION: IMPERATIVE FOR TEACHERS OF TECHNICAL VOCATIONAL EDUCATION AND TRAINING IN THE 21<sup>ST</sup> CENTURY

\*Audu, R., B.M. Mohammed., Kareem, W. B., S. A. Musa & S. A. Ma'aji  
(Industrial & Technology Education Department,  
Federal University of Technology Minna, Niger State, Nigeria  
E-mail: [audu.rufai@yahoo.com](mailto:audu.rufai@yahoo.com)  
Mobile: [+2348033174958](tel:+2348033174958)

### Abstract

*The globalization process, knowledge economy and the emergence of new modes of production in the industries in the 21<sup>st</sup> century have given rise to demands for training and retraining in new skills in different occupational areas, as a result of this, teachers of technical vocational education and training need to acquire skills in order to function effectively the job. The paper highlights on the concept of technical vocational education and also discussed on issues in teacher education in Nigeria. The role of teachers of technical vocational education and training in the 21<sup>st</sup> century and some challenges of technical vocational education and training were explained. Conclusions were drawn and recommendations made among which are: that teachers of technical vocational education and training should be trained by the government on a regular basis through workshops, seminar and in-service training in order to acquire new skills and update their knowledge to be able to train graduates of technical vocational education and training to acquire the skills that are needed in the 21<sup>st</sup> century workforce.*

*Keywords: Skills, Acquisition, Technical Vocational Education, Teachers, 21<sup>st</sup> Century.*

### Introduction

The lack of acquisition of technical vocational skills on the part of Technical Vocational Education and Training (TVET) graduates has been considered the bane of the economy of most developing countries, especially Nigeria. This is so because, in Nigeria for instance, the educational system operated at post-independence placed emphasis on academic excellence rather than acquisition of technical vocational skills which prepare the individual for a more useful and fulfilling life within the society. In other words, the system focused and emphasized on subjects in the humanities or arts at the expense of TVET which can facilitate practical skills acquisition that is generally believed to be more relevant to the development of a nation. The system for so many years was carried on entirely like that without any conscious or deliberate effort to adapt it to the cultural, social and ethical values of our society. It is now a well-known fact that the system failed to achieve the desired objectives that were expected from the education of this country. Since education is considered the most effective means of bringing about total change that would ensure accelerated economic growth and national development for the country, there was a need to tailor the educational system to suit the local existential situation of Nigerians. This need culminated in the National Policy on Education (NPE) promulgated in 1977 and revised 1981, 1998 and 2004 (Omoruyi & Osunde, 2004). The Federal Republic of Nigeria also revised the NPE in 2013 (FRN, 2013).

A fundamental change brought about by the NPE was the recognition and introduction of TVE courses in the educational curriculum. The policy therefore marked a deliberate shift in emphasis from literary to science-oriented education and training. The policy was considered laudable because it was capable of promoting the appropriate skills at various levels of our educational system and thus promoting individual and national efficiency. According to the Federal Republic of Nigeria (FRN, 2004). Section 8B (item 74) of the policy states that technical vocational teacher education shall continue to take cognizance of variations in the methods and curriculum and teachers be regularly exposed to improvements in their profession. The policy stipulates that the professional training of teachers is two-fold: pre-service and in-service trainings.

However, in an attempt to implement the policy through the introduction of TVET courses TVET teachers need to be trained in terms of quality and quantity to acquire the necessary skills to be able to teach

efficiently and effectively in technological institutions in the 21<sup>st</sup> century. Kalejaye (2007) revealed that the present day TVET teachers are sound in theory but deficient in practice. According to Akuezuilo (2007) lack of qualified TVET teachers is a factor that hinders the implementation of the curriculum of TVE whose key implementers are not well trained and/or concerned with the teaching of such subject. In support of this statement, Adeleke (2006) stated that one of the challenges of Nigeria TVET curriculum content is effective finishing of the product (implementation). Poor implementation of the school's curriculum in Nigeria has caused the missing link between the goals of Nigeria education and the realization of the goals in the present 21<sup>st</sup> century. The TVET teachers are the implementers of the curriculum therefore, there is the need for the teachers to be trained in order to acquire the right skills to be able to teach efficiently in the present 21<sup>st</sup> century.

### Technical Vocational Education and Training

Technical Vocational Education (TVET) could be defined as that aspect of education which provides its recipients with the basic knowledge and practical skills necessary for entry into the world of work as employees or as self-employed. According to Maclean & Wilson (2009) TVET is concerned with the acquisition of skills and knowledge for employment and sustainable livelihood. Abassah (2011) expressed that TVET involves training in the process of relating both science and technical education to practical problems right from primary to higher level of education; this is because it aims at developing practical skills as well as the creative and innovative abilities and enable decision making skills and problem solving abilities. The FRN in the NPE (FRN, 2013) sees TVET as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life'. TVET can therefore be seen as the formal training of persons to become technicians and technologists in different occupations. Thus any education that is geared towards teaching technical skills and attitudes suitable to such skills can be regarded as TVE.

The main objective of all TVET programs is the acquisition of skills and attitudes for gainful employment in a specific occupation or professional area. The need to link training in TVET to employment either self or paid employment is at the base of all the best practices and approaches observed throughout the world. One of the most significant aspects of TVET is its inclination towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. TVET delivery systems are therefore; well placed to train the skilled workforces that the nation needs to create employment for the youths in order for them to contribute to the development of their society and the nation.

### Issues in Teacher Education in Nigeria

Teacher education is referred to as a set of events and activities which are deliberately intended to help trainees acquire skills, dispositions, knowledge, habits, attitudes, values which enable them to enter the occupation of teaching. Fafunwa (1992) defined teacher education as an attempt to equip the recipient with enough facilities to explore the validity of theories and principles within specified contexts as defined by the nature of classroom, public, environmental factors, conceptual ecology and a host of other factors. According to Gogura & Bassi (2011) the purpose of teacher education is ultimately and objectively the improvement of education in its totality. The aim of teacher education in Nigeria includes, among others, 'the development of the spirit of inquiry and creativity in teachers, and preparing them with the intellectual and professional background that will be sufficient for their assignments and also make them adjustable to changing situations. The FRN (2013) stated that in recognition of the pivotal role of the quality of teachers in the provision of quality education at all levels, teacher education shall continue to be emphasised in educational planning and development. According to the NPE (FRN, 2013) the goals of teacher education shall be to:

- i Produce highly motivated, conscientious and efficient classroom teachers for all levels of the educational system
- ii Further encourage the spirit of enquiry and creativity in teachers
- iii Help teachers fit into the social life of the community and the society at large and enhance their commitments for national goals
- iv provide teachers with the intellectual and professional background adequate for their assignment and to make them adaptable to changing situations; and
- v Enhance teachers commitment to the teaching profession

However, Adebambo (2007) observed that in the past, effort to promote TVET have neglected the provision of trained teachers. He recalled that the National Teacher Training Certification (NTTC) was necessitated to meet the demand for TVET teachers in various technical institutions and training schools. The focus then was on how to teach and what not to teach. This led to the introduction of the Nigeria Certificate in Education (NCE, Technical) programme. This has more content on what to teach and a little about how to teach. Also, in the past, TVET teachers were sent abroad for training because of the cost implication it was stopped. Also, they are trained through the Technical Teachers Training Programme (TTTP) the resultant effect has been a shortage of teaching personnel of the technical schools. Awakuna (2006) affirms that the problem of production of TVET teachers has resulted in their scarcity which is one of the problems in TVET in Nigeria. Whilst the problem of inadequate technical teachers exists in the country generally. Kalejaye (2007) revealed that present day technical teachers are sound in theory but deficient in practice. TVET in Nigeria is encountering a lot of problems right from its developmental stage. Amongst these is the problem of inadequate provision of instructional materials, tools and equipment. Experts in the field of TVE have expressed the need for adequate physical, human and financial resources to effectively implement a TVET based curriculum.

### TVET Teachers for the 21<sup>st</sup> Century

Increasing globalization and the advent of the knowledge based economy is calling into question traditional perspectives on the transformational capacity of education systems and the conceptions of teaching as a career and the roles of teachers. How well Nigeria responds to the above and numerous other challenges will depend upon her ability to provide expanded prospects in the building of stronger competencies for the Nigerian child, through high-quality education (Fakoya, 2009). Apart from the demands of globalization and other challenges such as rapid technological advancements, changing patterns of work, explosion in the Information Technology (IT) access and use all makes the inculcation of 21st century skills essential. Also, peculiar African related issues and challenges such as poverty, the digital gap, environmental degradation, diseases, illiteracy, alterations in family and community relations, among others., account for the imperative need for acquiring 21<sup>st</sup> century skills and knowledge in future leaders and professionals of the world. For instance Darling-Hammond (2006: 14) succinctly puts it:

*The importance of powerful teaching is increasingly important in contemporary society. Standards for learning are now higher than they have ever been before, as citizens and workers need greater knowledge and skill to survive and succeed. Education is increasing important to the success of both individuals and nations, and growing evidence demonstrates that among all educational resources teachers' abilities are especially crucial contributors to students' learning.*

Therefore, principles and strategies must be put in place to ensure productive and fruitful partnerships in TVE teacher training, specifically in meeting the challenges of the 21st century. However, the effectiveness of the teacher training programs in Nigeria to prepare teachers for the 21st century has been questioned by a number of studies (Obanya, 2004; Ololube, 2006). Teacher- training institutions have been criticized for their inability to produce teachers who are properly grounded in pedagogy and content as well as having the capability to team up professionally in a working environment. Educationists observed that the shift from academic theories in universities to classroom practice has often been very sharp suggesting that student teachers are not often properly trained to put into practice current pedagogy and interactive skills that have been theoretically learnt. Quoting the Education Sector Analysis, (Kuiper, Thomas, Olorisade, Adebayo, Maiyanga, & Mohammed, 2009: 5) noted that:

*Complaints about newly appointed teachers, who have low levels of numeracy and literacy skills as well as inadequate knowledge in their chosen areas of subject specialization, are common place. The low quality of graduates from the teacher training colleges and universities who are joining the teaching profession is a major issue. The assessment tests ... make it clear that students enter colleges and universities with very low levels of cognitive skills. Students are caught in a cycle of low achievement, teachers with inadequate cognitive skills, and then further low achievement by students.*

Therefore, effective teaching in the 21st century needs more than a basic knowledge of educational theory

and classroom management. Teachers must also work in partnership with other educators to learn how to apply new technology in the classroom, and how to train students to enter the global economy. The global economy, knowledge economy and 21st century skills are all phrases that are widely spoken in the educational sector around the world, but too often students pass through schools without understanding what it means. Therefore, the teacher is faced with the task of efficient classroom management, making the educational content relevant to students daily lives, developing critical thinking in the students, working with new and evolving technologies to create meaningful and effective lessons, giving students understanding and relevance, making students work in teams to ensure that all students receive an equal education irrespective of what teacher they have, and finally keep on being current on new issues and developments in the field of education (Adeosun, 2010)

### **Skills Acquisition Process in the 21<sup>st</sup> Century**

The emergence of new modes of production in the industries in the 21<sup>st</sup> century have given rise to demands for training and retraining in new skills in different occupational areas, to enable individuals to be able to fit into the 21<sup>st</sup> century workforce. Skills acquisition process in a developing country like Nigeria is classified into three (3) stages. These are theoretical, practical while the last has to be with exposure to challenges (Nwanaka & Samuel, 2011). It is a well-known fact that class activities are theoretical in nature but theories are most a times general principles which apply to more than one situation. Practical on the other hand, may involve doing something that is more physical applied to more specific situation. The combination of theoretical and practical skills in solving problems depends on the level achieved in both types of skills. The theory and practical skills must be acquired to certain minimum level to facilitate the possession of appreciable relevant production skills (Nwanaka & Samuel, 2011).

It is important to be mindful of the general level of different skills in an economy so as to achieve a balanced development and high productivity in skill acquisition. To achieve skill acquisition, there is need to monitor all areas to ensure that effective linkages exist between attempts to develop theory and practical skills at various levels. Nwanaka & Samuel (2011) suggested that, "linkages be made between academic institutions." This could be made to enrich academic curriculum and as such utilizes the great potential in academic institutions. It would also create an avenue for interaction among the various sectors in economy, such as the teachers, instructors, artisans, manufacturers, academicians, government and industries in a way to enhance rapid skill acquisition and technological development in the country in the present 21<sup>st</sup> century.

However, an importance factor in skill acquisition process is exposure to practical where these skills are displayed. In this situation, the individual might face challenges. Challenges concretize the efforts to acquire theoretical and practical skills. Challenges bring about rapid development. Rapid development should be based on purposeful plans rather than chance. Only the plans, which lead to rapid acquisition of relevant skills, bring about rapid development. Societies posed with challenges develop rapidly because it clears the way for the learning. So, once an economy has developed basic modern skills, the wheel would have been set rolling to achieve a minimum standard of living (Nwanaka & Samuel, 2011).

### **Challenges to TVET**

Technical Vocational Education and Training in Nigeria is currently faced with many problems in the present 21<sup>st</sup> century. Most Nigerians are just recovering from continuing case of negative attitude towards TVET. Nigeria is similarly just awakening from her long sleep of neglect of these aspects of education in her educational system (Apagu & Andural, 2007). The nation and her citizens are in the 21<sup>st</sup> century questioning the quantity and quality of these aspects of education in the nations system of education. Adebambo (2007) noted that in the previous, the effort to promote TVET has ignored the provision of trained teachers. He recalled that the National Teachers Training Certification was needed to meet the demand for TVET teachers in many technical institutions and training schools.

It was also noted by Agbolade (2007) that government neglect in terms of inadequate funding of the training program has not helped the TVET teachers hence their insufficiency in the TVET institutions. Whilst the problem of shortage of TVET teachers exists in the country generally, a study carried out by Kalejaye (2007) revealed that present day TVET teachers are good in theory but lacking in practice. TVET in Nigeria has encountered a lot of problems during its developmental stage. Amongst these is the problem of insufficient provision of instructional materials, tools and equipment. Experts in the field of TVET have

expressed the necessity for adequate physical, human and financial resources to effectively execute a TVET based curriculum. Akaninwor (2001) in his study traced the technological backwardness in the country to lack of infrastructure and equipment for TVET. Puyate (2001) is of the view that instructional facilities should be looked at vis-à-vis the curriculum in order to make TVET effective. He stressed on a TVET curriculum that will meet the present needs of the 21<sup>st</sup> century demands of the society. Supporting his view (Onyene, Olusanya, Salisu, & Johnson, 2007) affirms that the TVET curriculum should be based on occupational and manpower needs to avoid irrelevant courses and time wastage.

However, public TVET institutions, according to Dasmani (2011) continued to attract a great deal of criticism. First, they were unable to train skilled workers to meet the requirements of industries and were unaware of the need for continuing education. Second, they were extremely costly. Often, the graduates of these institutions joined the ranks of the unemployed, an indication that the training provided did not match the jobs available. In most developing countries such as Nigeria, Ghana and Cameroon to mention but a few, public TVET institutions have not been able to adapt to the new structure of the labour market and the new skill requirements of industries in both the formal and informal sectors. Indeed there are vacancies for jobs in Nigeria but right now, there are little or no manpower with appropriate skills to fill the vacancies for the available jobs (Alfred, 2010). There is the need for TVET teachers to acquire the right skills to be able to impart the skills their knowledge, and attitudes to their students to enable them to be employable in the 21<sup>st</sup> century workforce.

### Conclusion

TVET has been an integral part of the national development strategy of the industrialised nations because of its impact on productivity and economic development. One of the greatest problems facing Nigeria today in TVET institutions is the use of teachers who do not possess the right skills to function effectively on their job. Lack of qualified TVET teachers is a factor that hinders the implementation of the curriculum of TVET whose key implementers are not well trained and/or concerned with the teaching of such subject. Poor implementation of the school's curriculum in Nigeria has caused the missing link between the goals of Nigeria education and the realization of the goals in the present 21<sup>st</sup> century. The TVET teachers are the implementers of the curriculum therefore, for Nigeria to become developed technologically there is the need to train TVET teachers in terms of quality and quantity to acquire the necessary skills to be able to teach efficiently and effectively in technological institutions in the 21<sup>st</sup> century.

### Recommendations

In order for TVET teachers to acquire the right skills to function effectively on the job in the 21<sup>st</sup> century; the following recommendations are made:

- TVET teachers as a matter of urgency should be trained by the government on a regular basis through workshops, seminars and in-service training in order to acquire new skills and update their knowledge to be able to train graduates of TVET programs to acquire the skills that are needed in the 21<sup>st</sup> century workforce.
- TVET institutions and local industries should collaborate to ensure that both TVET teachers and students are involved in training in the industries to be able to acquire the skills needed by the industries and also share information on the changing trends in industrial practices and how these changes can be incorporated into the curriculum of the schools.
- Workshops and Seminars should be jointly organized by government, technical vocational educators, technological institutions, accrediting bodies and the industries regularly to enable TVET teachers acquire the right skills to be able to function effectively on the job.
- Government, communities, industries, religious organizations, labour unions Non-Governmental Organizations (NGOs), wealthy individuals in the society should be encouraged in the funding of TVET for the smooth running of TVET in terms of provision of infrastructural and workshop facilities such as tools, equipment and machines for the acquisition of skills by the TVET teachers and the graduates of TVET program to enable them fit into the labour or be gainfully employed in industries or related organizations or to become self-employed.

## References

- Abassah, M. (2011). Technical College Teachers in Nigeria: Issues, Problems and Challenges. *Mediterranean Journal of Social Sciences: 2(7)*, 57-62.
- Adebambo, K. A. (Ed.). (2007). *Vocational and Technical Education and Training*. Ibadan: Gabesther Educational Publishers.
- Adeleke, M. H. (2006). *An Appraisal of Curriculum Implementation in Nigeria*. Lagos: Macus Publication.
- Adeosun, O. (2010). Teacher Education Programs and the Acquisition of 21st Century Skills: Issues and Challenges in Nigeria *Unpublished Manuscript*. University of Lagos, Nigeria.
- Agbolade, F. (2007). Resource Allocation and Utilization as Correlates of Students Academic Performance in Technical Colleges. *Unpublished Manuscript*. Department of Educational Administration. University of Lagos Nigeria.
- Akaninwor, K. G. I. (2001). *Curriculum Issues in Technical and Vocational Programs for Sustainable Poverty Alleviation in Nigeria*. In the Proceedings of Nigerian Association of Teachers of Technology (NATT). Lagos: Fembis International.
- Akuezuiilo, E. O. (2007). The New 9-Year Basic Science and Technology Curriculum and Challenges of its Implementation. *Journal of Curriculum and Instruction: 6(2)*, 1-6.
- Alfred, O. (2010) *Expanding Your Employment Capacity*. Lagos: Nigerian Graduate Advancement Publication.
- Apagu, V. V., & Andural, S. I. (2007). Refocusing Nigerian Vocational Education for Relevance and Sustainable Development. *Multidisciplinary Journal of Research Development: 9(1)*, 1-8.
- Awakuna, P. O. (Ed.). (2006). *Vocational and Technical Education: Issues and Prospects*. Enugu: Dimension publishers
- Darling-Hammond, L. (2006). Constructing 21st-Century Teacher Education. *Journal of Teacher Education: 2(2)*, 28-35.
- Dasmani, A. (2011). Challenges Facing Technical Institute Graduates in practical Skills Acquisition in the Upper East Region of Ghana. *Asia-Pacific Journal of Cooperative Education: 12(2)*, 67-77.
- Fafunwa, A. B. (1992). "Teacher and Teaching as a Career. *Journal of Gindiri Teacher: 5(6)*. 12 - 19.
- Fakoya, O. (2009). Teaching Profession and Factors Affecting Teaching Profession in Nigeria. *ATEE 403 Report*. University of Ibadan, Nigeria.
- Federal Republic of Nigeria. (2004). *National Policy on Education*. Lagos, Nigeria. Education Research and Development Council Press.
- Federal Republic of Nigeria. (2013). *National Policy on Education*. Lagos, Nigeria. Education Research and Development Council Press.
- Gogura, S. M. & Bassi, M. M. (2011). Issues in Leadership and Management in Nigerian Teacher Education. *The Nigerian Teacher Today: 14*, 27-32.
- Kalejaye, K. P. (2007). Vocational Education and National Development. In A. O. Ayoola & B. P. Ehinmipare. (Eds.) *Technical and Vocation Education: Assessment and Examination (Policy Issues)*. Ibadan: Gabesther Educational Publishers.

- Kuiper, J., Thomas, H., Olorisade, G. O., Adebayo, T. A., Maiyanga, A. & Mohammed, A. (2009). *Transforming Teacher Education in Nigeria: A Case Study of Comprehensive Institutional Change at Oro College of Education*. A Paper Presented at Distance Education and Teacher Education in Africa Conference. Accra, Ghana.
- Maclean, R. & Wilson, D. (2009). *International Handbook of Education for the Changing World of Work: Bridging Academic and Vocational Learning*. Dordrecht: Springer Science and Business Media.
- Nwanaka, C. R. & Samuel, A. (2011). Skills Acquisition: Imperative for Business Studies Educators Among Secondary Schools in Rivers State. *Mediterranean Journal of Social Sciences*: 2(7) 37-43.
- Obanya, P. (2004). *The Dilemma of Education in Africa*. Ibadan: Heinemann Educational Books.
- Ololube, N. P. (2006). *Teachers Instructional Material Utilization Competencies in Secondary Schools in Sub-Saharan Africa: Professional and Non-Professional Teachers' Perspective*. Paper Presented at the Conference Proceedings of the 6<sup>th</sup> International Educational Technology Conference EMU, North Cyprus.
- Omoruyi, F. E. O. & Osunde, A.U. (2004). *Evaluating the Effectiveness of the National Youth Employment and Vocational Skill Acquisition Programme in Midwestern Nigeria*. Retrieved February, 26<sup>th</sup> 2013 from [www.iiz-dvv.de/index.php?article\\_id=322&clang](http://www.iiz-dvv.de/index.php?article_id=322&clang)
- Onyene, V. E., Olusanya, O., Salisu, R. A., & Johnson, O. (2007). *Production of Skill-Oriented Graduates for the Labor Market*. A Paper Presented at the 1st International Conference of the Nigeria Association for Educational Administration and Planning Lagos, Nigeria.: NAEAP.
- Peace, Y. B. (2009). *Comparative Analysis of Business Studies Activities in Nigeria* A Paper Presented at National Conference on Sustainable Development in Nigeria. Uyo; Akwa Ibom State Nigeria.
- Puyate, S. T. (2001). *Manpower Development Through Relevant Technology Education Curriculum for Sustainable Poverty Alleviation*. In the Proceedings of the Conference of the Nigeria Association of Teachers of Technology (NATT). Lagos: Fembis international.